



IN THE CLAIMS

Please amend claims 1, 2, 3, 5, 9 and 10, cancel claims 6 through 8 and 17 through 19 without prejudice or disclaimer as to their subject matter and newly add claim 20 by this amendment as follows:

1 1. (Currently Amended) An address search apparatus in an ethernet switch, said
2 apparatus comprising:

3 a plurality of ports;

4 a plurality of local search blocks corresponding to each of said plurality of ports, each
5 of said plurality of local search blocks configured to analyze a destination address of an input
6 packet received in the port thereof and to search for a transmission port of said ethernet
7 switch and provide a source address thereof;

8 a main search [[unit]] block configured to analyze said source address to establish an
9 address data structure of said plurality of local search blocks, said main search [[unit]] block
10 being also configured to respond to a destination address request from at least one of said
11 plurality of local search blocks by ~~either~~ providing said requested destination address to a
12 corresponding local search block by using said address data structure [[when]] upon said
13 main search unit [[has]] having said destination address, said main search block being further
14 configured to respond to a destination address request from at least one of said plurality of
15 local search blocks [[or]] by sending a “no port” signal to said at least one of said plurality
16 of local search blocks [[when]] upon said main search ~~unit does~~ block not [[have]] having

17 said destination address; and

18 a scheduler for controlling said local search blocks and said main search [[unit]] block
19 to enable an interface therebetween.

1 2. (Currently Amended) The address search apparatus according to claim 1, each of
2 said plurality of local search blocks includes:

3 a destination address table having destination addresses and destination information
4 corresponding to said destination addresses which are matched therein;

5 a source address table having source addresses and source information corresponding
6 to said source addresses which are matched therein;

7 an address sorting logic configured to classify an ethernet address into groups as many
8 as necessary, and corresponding to each of said destination address table and said source
9 address table;

10 a control logic for control of corresponding local search blocks; and

11 a register [[unit]] block for temporal storage of data.

1 3. (Currently Amended) An address search apparatus in an ethernet switch, said
2 apparatus comprising:

3 a plurality of ports;

4 a plurality of local search blocks corresponding to each of said plurality of ports, each
5 of said plurality of local search blocks configured to analyze a destination address of an input

6 packet received in the port thereof and to search for a transmission port of said ethernet
7 switch and provide a source address thereof;

8 a main search block configured to analyze said source address to establish an address
9 data structure of said plurality of local search blocks, said main search block also configured
10 to respond to a destination address request from at least one of said plurality of local search
11 blocks by either providing said requested destination address to a corresponding local search
12 block by using said address data structure when said main search block has said destination
13 address or by sending a "no port" signal to said at least one of said plurality of local search
14 blocks when said main search block does not have said destination address; and

15 a scheduler for controlling said local search blocks and said main search unit to enable
16 an interface therebetween ~~The address search apparatus according to claim 1, said main~~
17 ~~search~~ [[unit]] block includes:

18 an address table for storing addresses known to the ethernet switch system and port
19 information corresponding to said addresses;

20 a table access logic for accessing said address table;

21 an address sorting logic for classifying addresses having same characteristics to store
22 data known to the ethernet switch system into said address table; and

23 a control [[unit]] block for control and condition detection of elements.

1 Claim 4 (Canceled)

1 5. (Currently Amended) An address search method in an ethernet switch, said method
2 comprising the steps of:

3 determining whether or not a port has received an information input packet for
4 transmission;

5 reading a destination address from a header of said information input packet;

6 determining whether said destination address exists in a local search block of said
7 port;

8 filtering the received input packet when said destination address and source address
9 are the same, to thereby purge the input packet;

10 updating a destination address received from the main search block when the
11 destination address does not exist in the local search block of said port and when said main
12 search block includes the destination address; and

13 broadcasting said input packet to all ports in said Ethernet switch

14 ~~determining whether said destination address is the same as a source address; and~~
15 ~~transmitting said information packet to said destination address if said destination~~
16 ~~address is in said local search block of said port and is not the same as said source address.~~

Claims 6 through 8 (Canceled)

1 9. (Currently Amended) The method of claim [[7]] 5, further comprising the step of
2 aging, wherein said main search block purges addresses that have not recently been used.

1 10. (Currently Amended) The method of claim [[8]] 5, further comprising the step of
2 address learning, wherein said main search block adds said destination address to its address
3 table.

1 Claim 11 (Canceled)

1 12. (Currently Amended) The apparatus of claim 1, each of said plurality of local
2 search blocks being configured to broadcast said input packet to all of said plurality of ports
3 when in receipt of said “no port” signal from said main search [[unit]] block.

1 13. (Previously Presented) The apparatus of claim 1, said plurality of local search
2 blocks being configured to compare said destination address of said received input packet
3 with addresses stored in a table within using a hash algorithm.

1 14. (Previously Presented) The apparatus of claim 1, each local search block being
2 configured to filter all received input packets that have a destination address the same as its
3 own port.

1 15. (Previously Presented) The apparatus of claim 2, the address sorting logic and the
2 control logic being configured to determine whether the source address and the destination

3 address of a received input packet are the same and the address sorting logic and the control
4 logic being configured to filter a received input packet when the source address and the
5 destination address are the same.

1 16. (Previously Presented) The apparatus of claim 2, said address sorting logic and
2 said control logic being configured to perform a hash algorithm for said classifying the
3 ethernet address into groups.

1 Claims 17 through 19 (Canceled)

1 20. (New) The method of claim 5, said updating comprising:
2 performing an internal search for the destination address of header information
3 received from said local search block in said main search block; and
4 performing, when the address search is finished, an update by sending the searched
5 destination address to the corresponding local search block.